

COASTAL CONSERVANCY

Staff Recommendation
September 20, 2007

PINE GULCH CREEK WATERSHED ENHANCEMENT: INSTREAM FLOW ENHANCEMENT PROJECT

File No. 07-081
Project Manager: Michael Bowen

RECOMMENDED ACTION: Authorization to disburse up to \$275,000 to the Marin Resource Conservation District to prepare the final design and permits for water-storage ponds in order to conserve water and protect anadromous fish in Pine Gulch Creek, a tributary to the Bolinas Lagoon, in Marin County.

LOCATION: Pine Gulch Creek, a tributary to Bolinas Lagoon, Marin County (Exhibit 1)

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: [Project location and site map](#)

Exhibit 2: [Initial Study](#)

Exhibit 3: [Letters of Support](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251-31270 of the Public Resources Code:

The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed two hundred seventy-five thousand dollars (\$275,000) to the Marin Resource Conservation District, for the preparation of final design and permits for water-storage facilities to assist in the conservation of water and the protection and enhancement of anadromous fish in Pine Gulch Creek, a tributary to the Bolinas Lagoon, in Marin County. Prior to the disbursement of Conservancy funds for the project, the Executive Officer of the Conservancy shall approve in writing a final work program, including schedule and budget, and any contractors to be employed for the project.

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal

Conservancy hereby finds that:

1. The proposed project is consistent with Chapter 6 of the Public Resources Code (Sections 31251-70), regarding the enhancement of coastal resources.
2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.”

PROJECT SUMMARY:

The Pine Gulch Creek Watershed Enhancement Project is a voluntary and cooperative water conservation effort on the part of the participating organic farmers: Fresh Run Farms; Paradise Valley Farms; and Star Route Farms, whose historic riparian water use for crop production dates back several decades (riparian water rights are property rights that affix to the land adjacent to a water body). As a group, these Bolinas farmers form a vital component of West Marin agricultural production. Through this project, they propose to modify existing water operations to support sustainable agriculture and enhance aquatic habitat supporting coho salmon and steelhead trout.

The participants intend to increase stream diversion levels when flows are high, and reduce and even eliminate stream diversions when flows are low. Doing so requires adjusting water use from year-round direct diversions to seasonal appropriation and storage of water for later use (appropriative rights require a permit, but enable the holder to withdraw and store water for later use for a period of greater than 30 days). The overall approach involves the appropriation of water to storage facilities during the winter season, limited riparian diversion between April and July 1, and no diversion of water between July 1 and December 15 of each year. This approach was developed through consultation with the California Department of Fish and Game (CDFG), National Marine Fisheries Service (NOAA-Fisheries), and State Water Resources Control Board (SWRCB). The farmers will apply for appropriative water rights, and dedicate their summer, commercial irrigation, riparian water rights to instream flow for the benefit of fish habitat.

Some design work has already been undertaken. The completed designs will provide for the development of five storage ponds with a proposed storage of 61 acre feet (an acre-foot is the volume of water necessary to cover one acre, roughly the size of a football field, one foot deep). The pond siting and capacity is as follows: Fresh Run Farms, two ponds with a total storage of 20.5 acre-feet; New Land Trust, one pond of 5.5 acre-feet storage; Star Route Farms, two ponds with total storage of 35.4 acre-feet.

The proposed strategy will significantly improve the ability of the farmers to protect instream flow throughout the year, while providing a reliable water supply that promotes and increases agricultural sustainability in this part of the coastal zone.

Under the proposed authorization, the Marin Resource Conservation District (“RCD”) will assist several landowners with final design, planning, and permitting of offstream water storage facilities to ensure the protection of instream flows in Pine Gulch Creek, an important steelhead and coho salmon stream tributary to Bolinas Lagoon. Currently, as in many coastal streams, the farmers exercise their existing riparian water rights, drawing water throughout the year directly

from Pine Gulch Creek for irrigation purposes. This practice frequently renders instream habitat inhospitable for juvenile salmon and other aquatic species. By facilitating the development of offsite storage for these farmers, and concurrently transforming riparian into appropriative water rights, proponents will achieve both the continued availability of an agricultural water supply and the protection of instream flow during low flow periods, typically from April through December.

The project includes the preparation of final design and permits for the development of an irrigation diversion and storage program intended to diminish existing riparian diversions between April and June. Development of appropriative diversions during peak events and the storage of diverted water in facilities that will accommodate water needs for the growing season between July and December are also part of the future development project. All irrigation water diversions will occur through screened pumps withdrawing water from the water column or intakes installed into the gravel of the stream bed. All water diverted will be pumped into the ponds, and all irrigation of crops will be applied directly from the storage ponds. This will allow for lower diversion rates from the stream, further buffering the riparian diversion impacts. Because of limited appropriative storage, farmers would continue to use riparian water between April 1 and June 30, at rates and volumes already agreed upon. The farmers will dedicate all of their commercial riparian diversion between July 1 and December 15 to instream flow for the benefit of coho salmon and steelhead trout under the important but seldom applied California Water Code Section 1707 authority, which as revised allows the dedication of water rights to instream use for protection and enhancement of aquatic habitat. This dedication will be linked directly with the appropriative storage rights associated with the proposed ponds. Concurrent with the county permit submittals, the farmers will submit appropriate applications to the State Water Resources Control Board.

One of the most notable aspects of the instream flow enhancement effort is the coherent and comprehensive approach to addressing instream flow challenges. The participants in the Pine Gulch Creek project have, through careful study and analysis of alternatives, identified all existing sources of diversion, and quantified how their effort will have a measurable and beneficial effect upon the entire watershed, not simply at the point of a single diversion. Thus, the participants have addressed diversions comprehensively and coherently to guarantee instream flow for fishery habitat protection.

The project includes a series of monitoring measures that will be implemented within the watershed and by the farmers to ensure compliance. In addition to monitoring activities, the program would include a regular meeting schedule that would allow for responsive management of the project with accumulated information. The monitoring measures include:

- Summer streamflow monitoring upstream of the Martinelli diversion
- Pump log and monthly operation summaries
- Ongoing streamflow monitoring below Olema-Bolinas Road Bridge
- Annual salmonid surveys conducted and reported through the NPS
- Annual Meeting schedule

The instream flow enhancement effort has received extensive support and project development

assistance from the Point Reyes National Seashore staff, the County of Marin, the California Department of Fish and Game (DFG), National Marine Fisheries Service (NMFS), the State Water Resources Control Board, and many others. The RCD has extensive experience addressing conflicting land uses and permitting hurdles facing enhancement projects and is therefore uniquely positioned to promote and achieve the goals of this project.

Site Description

Pine Gulch Creek is an approximately seven mile long perennial stream draining a watershed of about 7.8 square miles in western Marin County. Pine Gulch Creek is the principal source of freshwater to Bolinas Lagoon and probably contributes about one-half of the Lagoon's freshwater inflow. Three miles of the creek are within the coastal zone. The portion of the stream within the coastal zone is partially within lands of the Point Reyes National Seashore, but the majority flows through the agricultural lands of Paradise Valley and the Pine Gulch Creek Delta. Upstream from the coastal zone, the creek flows entirely within lands of the Point Reyes National Seashore. This flow is especially important in the summer when the remaining tributary streams dry up or are reduced to very low flows. The Pine Gulch Creek watershed provides habitat for federally listed Central California Coast coho salmon (*Oncorhynchus kisutch*) and Central California Coast steelhead trout (*Oncorhynchus mykiss*). Coho salmon are listed as a candidate species under the California Endangered Species Act (CESA).

Project History:

The project is a voluntary cooperative effort on the part of the participating organic farmers: Fresh Run Farms; Paradise Valley Farms; and Star Route Farms, whose riparian water use for crop production dates back several decades. In 1998 the farmers had applied for streambed alteration permits for their water diversions. In response, the California Department of Fish and Game (DFG) staff recommended that the permits mandate the development of offsite storage ponds. Doing so would potentially compel the abandonment of riparian water rights, (and promote the development of appropriative water rights, thereby reducing diversions during low flow periods, while enabling the farmers to store peak flows at offsite locations for use during dry periods.

The farmers experienced their first procedural hitch when the California Fish and Game Commission found that coho warranted listing under the California Endangered Species Act list in 2002. This special status of coho, a species recently returned to Pine Gulch Creek, complicated discussions regarding the farmers' applications with regulatory agencies. Extensive conversations and negotiations with regulatory agencies ensued. The initial project concept, submitted for a Coastal Permit/Grading Permit to the County of Marin in September 2002, proposed construction of ponds –limited by policy to 30 days of storage- on each of the three participating farms. The intention of these ponds was to enable the three farmers to regulate the amount and timing of pumping from the creek, thus reducing instantaneous withdrawals during the low flow periods.

Extensive and continuing project discussions between the County, DFG water rights staff, NMFS, the farmers, and Point Reyes National Seashore (PRNS) staff, prompted several investigations into the optimum and most scientifically defensible instream flow level and project proposal. Participants sought to better understand what instream flow level would support

coho salmon. Based on comments from the DFG, NOAA-Fisheries, and the public, the farmers modified the project significantly with the coho listing in mind.

Although progress on conceptual project design had been made, a second procedural hitch occurred. In creating ponds, the farmers would likely attract, and increase populations of, red legged frogs, a federally listed species under the Endangered Species Act. Thus, the group needed to obtain a “safe harbor agreement” that would allow the farmers to “take” listed species in the course of conducting their agricultural operations. Generally, these agreements are only offered in instances where clear habitat improvements or benefits are achieved by the overall project. In support of progress the group had made, the Conservancy provided \$50,000 in 2005 to an organization called Sustainable Conservation for the purpose of developing the “safe harbor agreement,” and conducting some of the studies and design work necessary to support preparation of an environmental review document. The “safe harbor agreement” is complete, and awaiting final signature at the Fish and Wildlife Service. The RCD contacted the Conservancy in 2007 on behalf of the farmers to seek financial assistance with the final planning for this instream flow enhancement effort. The RCD will retain the services of experts, as needed, to ensure timely completion of the aforementioned tasks.

PROJECT FINANCING:

Coastal Conservancy	\$ 275,000
Total Project Cost	\$275,000

Conservancy funds for this project are expected to derive from the Conservancy’s FY2006 appropriation from Proposition 50 (the “Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002”). Proposition 50 authorizes the use of these funds for the purpose of protecting coastal watersheds through projects undertaken pursuant to the Conservancy’s enabling legislation (Division 21 of the Public Resources Code) to acquire, restore or protect water and land resources (Water Code Section 79570). The proposed project will help provide for the improvement of instream flows to Pine Gulch Creek, thereby restoring and protecting water resources. As discussed below, and as required by Proposition 50, the proposed project is consistent with local and regional watershed plans. (Water Code Section 79507). The project is thus consistent with the funding source. The project is also consistent with the Conservancy’s enabling legislation, as discussed below.

In addition to Conservancy funding, other participants in the project have provided substantial match in the form of analysis necessary to meet the goals of the project. The Point Reyes National Park Service evaluated instream flow levels and contributed staff resources necessary to develop a proposed instream flow recommendation suitable to maintain aquatic resources in Pine Gulch Creek. The California Department of Fish and Game also provided an early grant of \$67,200 to initiate this project.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project is undertaken pursuant to Chapter 6 of Division 21, Sections 31251-31270 of the Public Resources Code, regarding enhancement of coastal resources, as follows:

Pursuant to Section 31251, the Conservancy may award grants to public agencies for the purpose of enhancement of coastal resources which, because of human-induced events, or incompatible land uses, have suffered loss of natural and scenic values. Consistent with this section, the proposed project provides funds to the Marin Resource Conservation District, a public agency, to conduct data collection necessary to prepare final materials for the development and implementation of this project. When implemented, the project will protect Pine Gulch Creek and its coastal fishery resources by enhancing instream flows.

Section 31251.2 (a) provides that “[i]n order to enhance the natural or scenic character of coastal resources within the coastal zone, the Conservancy may undertake a project or award a grant...to enhance a watershed resource that is partly outside of the coastal zone....” Consistent with this section, the proposed project will serve to advance enhancement of salmonid habitat in locales that are chiefly within the coastal zone, but parts of which are located outside the coastal zone. Pine Gulch Creek is partly outside of the Coastal Zone boundary. Nonetheless, the proposed project as a whole will expedite restoration of coastal zone resources that will benefit the anadromous fish which rely on both the coastal and upstream habitats for their survival.

Consistent with Section 31252, the proposed project will focus on coastal anadromous salmonid habitat specifically identified in the pertinent certified local coastal plans as being in need of enhancement and restoration. Moreover, the project as a whole is consistent with those local plans, as discussed in detail below under the heading “Consistency with Local Coastal Program Policies.”

Finally, under Section 31253, the Conservancy “may provide up to the total of the cost of any coastal resource enhancement project...” and the amount of the Conservancy contribution is determined only after an assessment of funding generally available and other factors. The proposed contribution by the Conservancy was determined based on application of priority criteria and after taking into account other available resources and the matching contributions to the project by other funding sources to previous phases of the project.

CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 6 Objective A** of the Conservancy’s 2003 Strategic Plan, the proposed project will contribute to the development of approximately 70 plans and projects that will preserve and restore coastal watersheds and create river parkways.

CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/STATE WATER QUALITY CONTROL PLAN:

The restoration of Pine Gulch Creek is identified as a priority action in the Bolinas Lagoon Management Plan Update of 1996, although the emphasis of that plan is sediment reduction.

By law, each Water Board is required to develop, adopt (after public hearing), and implement a Basin Plan for the Region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the

Region. The plan must include:

- A statement of beneficial water uses that the Water Board will protect;
- The water quality objectives needed to protect the designated beneficial water uses; and
- The strategies and time schedules for achieving the water quality objectives.

The basin planning process drives the Water Board's effort to manage water quality. The Basin Plan provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses in a manner that will result in maximum benefit to the people of California.

The Water Board first adopted a plan for waters inland from the Golden Gate in 1968. After several revisions, the first comprehensive Basin Plan for the San Francisco Bay Region was adopted by the Water Board and approved by the State Water Board in April 1975. Subsequently, major revisions were adopted in 1982, 1986, 1992, 1995, 2002, and 2004. The Water Board must then adopt the amendment, which is then subject to approval by the State Water Board. In most cases, the Office of Administrative Law and the U.S. Environmental Protection Agency (U.S. EPA) must approve the amendment as well. By amendment, the Tomales Bay watershed area is included in the Basin Plan.

The Pine Gulch Creek project is consistent with the Basin Plan in that it protects many beneficial uses identified in the plan, such as protection of cold freshwater habitat, and removal of barriers to fish passage, as described below.

Cold freshwater habitat is a beneficial use protected in the Basin Plan. Uses of water that support cold water ecosystems, include preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. Cold freshwater habitats generally support trout and may support the anadromous salmon and steelhead fisheries as well. Cold water habitats are commonly well-oxygenated. Life within these waters is relatively intolerant to environmental stresses, such as diversion of instream flows.

The water quality provisions acceptable to cold water fish generally protect anadromous fish as well. However, particular attention must be paid to maintaining zones of passage. Any barrier to migration or free movement of migratory fish is harmful. Natural tidal movement in estuaries and unimpeded river flows are necessary to sustain migratory fish and their offspring. A water quality barrier, whether thermal, physical, or chemical, can destroy the integrity of the migration route and lead to the rapid decline of dependent fisheries.

Water quality may vary through a zone of passage as a result of natural or human-induced activities. Fresh water entering estuaries may float on the surface of the denser salt water or hug one shore as a result of density differences related to water temperature, salinity, or suspended matter.

For all of the aforementioned reasons, the Pine Gulch Creek project is consistent with the Basin Plan.

CONSISTENCY WITH CONSERVANCY'S

PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** The proposed project is supported by the California Department of Fish and Game, the National Marine Fisheries Service, the State Water Resources Control Board, the County of Marin, Assemblyman Jared Huffman, Senator Carol Migden, Trout Unlimited, the Marin County Farm Bureau, and others (Exhibit 3).
4. **Location:** The proposed project would be located in western Marin County at Pine Gulch Creek, near the community of Bolinas.
5. **Need:** Absent completion of the project, the recently returned coho salmon of Pine Gulch Creek, as well as other biological resources, are likely to be reduced in number if not extirpated as their habitat continues to degrade. Conversely, the opportunity for enhancement of Pine Gulch Creek and Bolinas Lagoon resources is very high should the project be implemented expeditiously. Offsite storage of limited water resources is a policy goal shared by many seeking to protect adequate instream flows for the protection of aquatic resources. This pilot project, if successful, could pave the way for similarly oriented projects elsewhere.
6. **Greater-than-local interest:** The biological resources in Pine Gulch Creek are of statewide significance, and a successful shift from riparian to appropriative water rights on a coastal watershed would provide great policy experience and direction to resource managers statewide.

Additional Criteria

7. **Urgency:** Coho salmon are currently at six to fifteen percent of their abundance during the 1940s. Given this decline, and in light of the State Recovery Strategy's primary objective of returning coho salmon to a level of sustained viability while protecting their genetic integrity, projects such as this with a high potential for recovering local populations of coho are a high State priority. Water diversions, and their effect on the biological resources of Pine Gulch Creek must be addressed quickly in order to restore this species to its former range.
8. **Leverage:** See the "Project Financing" section above.
9. **Innovation:** The participants engaged in this creative dedication of instream flow have succeeded in reaching a compromise over one of the most challenging resource conservation issues facing global communities: the use of water and its appropriate dedication instream for habitat conservation. The proposed actions by the participating farmers in Pine Gulch Creek will result in significant, long-term protection and management of aquatic habitat on private lands within the watershed. While the National Park Service manages 85% of the watershed

area (primarily upstream), the remaining 15% of private lands include nearly 30% of the mainstem aquatic habitat known to support coho salmon and steelhead trout. This cooperative arrangement by the farmers to improve their environmental and agricultural sustainability within this rich and unique watershed and ecosystem is precedent setting. The participants in this project are dedicated organic farmers who see this as a unique sustainable model of cooperation and successful resource management. This project represents significant adjustment and alteration of their current operations but is understood as a valuable and necessary step for the long-term sustainability of agriculture and salmonids in the watershed. Their success in reaching this critical stage should be rewarded with sufficient funds to complete their undertaking.

10. **Readiness:** The Marin Resource Conservation District is fully ready to complete the proposed project.
11. **Cooperation:** The cooperation cultivated for the development of this project is unprecedented, and provides a hopeful pilot project to resolve future water use disputes on coastal watersheds.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

Few watersheds are treated as thoroughly and extensively as Pine Gulch Creek is treated in the Marin County Local Coastal Program Unit 1 for southern Marin, and seldom are enhancement recommendations so harmonious with a proposed project.

As indicated in Section II, Natural Resource Protection, page 15, “...(s)treams and riparian vegetation provide valuable and limited habitat for bird and animal life that must be protected under the policies of the Coastal Act....Two streams within Unit I are of special significance because they support annual runs of steelhead trout and silver salmon. Because of the importance of these fishery resources, the resource values of both Pine Gulch Creek and Redwood Creek are described in more detail below.”

As the LCP acknowledges, following a discussion of the harmfulness of instream structures that impair fish passage, “water diversions can be equally harmful to the salmonid resource. This is especially critical during the low-flow period of July through October when diversions can seriously limit or completely eliminate available habitat.” (LCP Section II, pg. 16). Further, the LCP states, “the anadromous fish resource is the most sensitive wildlife use of the Creek, but most other species found in the riparian zone are dependent on the flow of water to some extent. The diversion, reduction, or elimination of flows in the Creek will reduce the quality of the habitat for these species as well.” (LCP Section II, pg. 17)

The LCP identifies six existing water diversions on file with the Division of Water Rights and raises the concern that, cumulatively, these diversions can withdraw 1.8 cubic feet per second in a system whose summer flows are likely less than that most of the time. (LCP Section II, pg. 17) Therefore, the proposal goal of addressing these diversions in unison, and diminishing withdrawals while dedicating instream flows during critically low flow periods, is highly

consistent with the LCP's objective of protecting the instream flows and overall habitat of Pine Gulch Creek.

COMPLIANCE WITH CEQA:

The activities proposed for the Conservancy's current authorization entail design, engineering and survey work to further refine the overall water-conservation scheme and prepare it for implementation. 14 California Code of Regulations Section 15262 exempts from the California Environmental Quality Act ("CEQA") feasibility or planning studies for possible future actions which the agency has not approved or funded. Under the exemption, the project is required to consider environmental factors. The authorization is also exempt under 14 Cal. Code of Regs. Section 15306, which exempts basic data collection, research, and resource evaluation activities which do not disturb an environmental resource.

The County of Marin recently prepared a CEQA proposed Mitigated Negative Declaration for implementation of the water-resources project, and may adopt the document late in 2007.